

**Remarks**

Applicant has reviewed the Office Action dated as mailed May 4, 2005, and the documents cited therewith. After the above amendments have been made, the present application contains claims 1-9, 13-23, 25-50, 52-61, 70-72 and 78-80. Claims 1, 2, 4, 6, 8, 13, 14, 16-20, 25, 37, 44, 45, 52, 70 and 78 have been amended. Claims 10-12, 24, 51, 62-69 and 73-77 have been cancelled.

**Claim Rejections under 35 U.S.C. §103**

Claims 1-2, 4, 6, 10-11, 13, 20-21, 27-33, 37-38, 40, 42, 44, 56-58, 62-65, and 66-76 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over Bothof et al. (US Patent 4, 105, 995) hereinafter Bothof in view of Lowell et al. (US Patent 6,362, 630) hereinafter Lowell. This rejection is respectfully traversed. Applicant respectfully submits that this rejection under 35 U.S.C. § 103 (a) does not follow the M.P.E.P. § 706.02 (j) which states:

“After indicating that the rejection is under 35 U.S.C. § 103, the examiner should set forth in the Office Action:... (B) the difference or differences in the claim over the applied reference(s), (C) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and (D) an explanation of why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification... The teaching or suggestion to make the claimed combination and the reasonable expectation of the success must both be found in the prior art and not based on applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).”

The Office Action merely states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Lowell into the teachings of Bothof without explaining how such modification would be made nor where such combination is taught or suggested in Bothof and Lowell.

Additionally, as described in more detail below, Applicant respectfully submits that there is no teaching or suggestion in Bothof and Lowell that their teachings may be combined so as to provide the present application as recited in the claims and such motivation only comes from Applicant’s disclosure. This approach constitutes impermissible hindsight and must be avoided. The Office Action admits that Bothof manually selects types of terminations connectable to the line pair to perform the qualifying tests. Further, Bothof in column 2 beginning at line 54 recites:

“The measurement requires a unit at each end, one set to MASTER and the other to SLAVE. The MASTER communicates the measurement and direction of test (which line is to be tested) to the SLAVE.”

In contrast, referring to Figure 1 of Lowell and column 3 beginning at line 43, Lowell recites:

“Under processor control, the CTAS matrix switch 14 is operative to source one or more test signals for stimulating a selected one of the copper pairs 21, 22 under test and to conduct an analysis of the wireline pair’s response, when bridged at some location, shown at 23 for wire line pair 21, by an electronic test tagged (ETT) 40 of the invention.”

From the recitation from Bothof above Applicant respectfully submits that there is no teaching or suggestion of using a termination unit. Bothof teaches using the same portable transmission unit at each end one being a MASTER and the other being a SLAVE. There is no teaching or suggestion in either Bothof or Lowell that the ETT of Lowell may be substituted for the MASTER or SLAVE in Bothof.

For all of the reasons discussed above, Applicant respectfully submits that a person of ordinary skill in the art would not be motivated to combine the teachings of Lowell and Bothof in order to provide the present invention as recited in the claims.

Even if it were proper to combine the teachings of Bothof and Lowell, they still would not provide the present invention as recited in the claims. Turning initially to independent claim 1, claim 1 has been amended to recite:

“sending an initiate test signal to a remote termination unit from another termination unit, wherein a test set adapted to perform line qualifying testing is coupled to the other termination unit to send the initiate test signal via the other termination unit; disconnecting the other termination unit from the line pair after sending the initiate test signal and before performing a series of line pair qualifying tests; connecting the test set directly to the line pair; and performing the series of line pair qualifying tests...”

Applicant respectfully submits that there is no teaching or suggestion in Bothof or Lowell of sending an initiate test signal to a remote termination unit from another termination unit wherein a test set adapted to perform line qualifying testing is coupled to the other termination unit to send the initiate test signal via the other termination unit. Additionally, there is no teaching or suggestion in Bothof or Lowell of disconnecting the other termination unit from the line pair after sending the initiate test signal and before performing a series of line qualifying

tests and connecting the test set directly to the line pair for performing the tests. Applicant, therefore, respectfully submits that independent claim 1 is patentably distinguishable over Bothof and Lowell, whether considered individually or combined, and reconsideration and withdrawal of the 35 U.S.C. § 103 (a) rejection of independent claim 1 is respectfully solicited.

With respect to the rejection of claims 2, 4, 6 and 13, these claims contain additional features which further patentably distinguish over Bothof and Lowell. Additionally, these claims depend either directly or indirectly from independent claim 1. Because of this dependency, these claims contain all of the features of independent claim 1. Therefore, claims 2, 4, 6 and 13 are also submitted to be patentably distinguishable over Bothof and Lowell, whether considered individually or combined, and reconsideration and withdrawal of the 35 U.S.C. § 103 (a) rejection of these claims is respectfully solicited.

With respect to the rejection of claims 20-21 and 27-30 under 35 U.S.C. § 103 (a) as being unpatentable over Bothof in view of Lowell, these claims have been amended to depend from claim 14 and claim 14 has been amended and rewritten in independent form. As discussed in more detail below, claim 14 as amended is patentably distinguishable over Bothof and Lowell, whether considered individually or combined. Therefore, claims 20-21 and 27-30 are also submitted to be patentably distinct over Bothof and reconsideration and withdrawal of the Section 103 rejection of these claims is respectfully requested.

Turning now to the rejection of independent claim 31 under 35 U.S.C. § 103 (a) as being unpatentable over Bothof in view of Lowell, as previously discussed, the combination of Bothof and Lowell does not satisfy the requirements of M.P.E.P. § 706.02 (j) as discussed above. However, even if it were proper to combine the teachings of Bothof and Lowell, they still would not provide the present invention as recited in independent claim 31. Claim 31 recites:

“coupling a far end device to the line pair to perform selected line qualification test; and coupling a termination unit to the line pair by the far end device to perform other selected line qualification test.”

Applicant respectfully submits that there is no teaching or suggestion in either Bothof or Lowell of coupling a termination unit to a line pair by a far end device to perform selected line qualification tests as provided by the present invention as recited in independent claim 31. Accordingly, Applicant respectfully submits that independent claim 31 is patentable over Bothof

and Lowell, whether considered individually or combined, and reconsideration and withdrawal of the Section 103 rejection of independent claim 31 is respectfully requested.

Regarding the rejection of claims 32 and 33 under 35 U.S.C. § 103 (a) as being unpatentable over Bothof in view of Lowell, these claims recite additional features which further patentable distinguish over Bothof and Lowell. Claim 32 recites “transmitting signals from a test set to control operation of the far end device to connect the termination unit to the line pair” and claim 33 recites transmitting signals from a test set to control operation of the far end device and the termination unit to perform different line qualification test.” Applicant respectfully submits that there is no teaching or suggestion in Bothof or Lowell of transmitting signals from a test set to control operation of a far end device to connect a termination unit to a line pair nor is there any teaching or suggestion in Bothof or Lowell of transmitting signals from a test set to control operation of the far end device in the termination unit to perform different line qualification test as recited in claim 33. Furthermore, these claims depend directly from independent claim 31 and by virtue of that dependency, contain all of the features of independent claim 31. Therefore, Applicant respectfully submits that claims 32 and 33 are also patentably distinguishable over Bothof and Lowell, whether considered individually or combined, and reconsideration and withdrawal of the 35 U.S.C. § 103 (a) rejection of claims 32 and 33 is respectfully requested.

Turning now to the rejection of independent claim 37 under 35 U.S.C. § 103 (a) as being unpatentable over Bothof in view Lowell, as previously discussed the combination of Bothof and Lowell is improper and a person of ordinary skill in the art would not be motivated to combine their teachings. Even if Bothof could properly be combine with Lowell their teachings still would not provide the present inventions as cited in amended claim 37. Claim 37 as been amended to recite:

“a test set adapted to perform a series of qualification tests on the line pair and to send an initiate test signal via one of a termination unit or a digital subscriber line (xDSL), wherein the test set is further adapted to be disconnected from the termination unit or xDSL and to be connected directly to the line pair to perform the series of qualification tests...”

In contrast, as previously discussed with respect to independent claim 1, there is no teaching or suggestion in Bothof or Lowell of a test set adapted to send an initiate test signal via one of a termination unit or xDSL and wherein the test set is further adapted to be disconnected

from the termination unit or xDSL and to be connected directly to the line pair to perform the series of qualification test as recited in independent claim 37 as amended. Therefore, Applicant respectfully submits that claim 37, as amended, is patentably distinguishable over Bothof and Lowell, whether considered individually or combined, and reconsideration and withdrawal of the 35 U.S.C. § 103 rejection of independent claim 37 is respectfully requested.

Regarding the rejection of claims 38, 40, 42, and 44, these claims recite additional features which further patentably distinguish over the cited documents. Additionally, these claims depend either directly or indirectly from independent claim 37. By virtue of this dependency, claims 38, 40, 42 and 44 contain all of the features of independent claim 37. Accordingly Applicant respectfully submits that claims 38, 40, 42 and 44 are also patentably distinguishable over Bothof and Lowell, and reconsideration and withdrawal of the Section 103 rejection of these claims is respectfully solicited.

With respect to the rejection of independent claim 56 under 35 U.S.C. § 103 (a) as being unpatentable over Bothof in view Lowell, claim 56 recites:

“a far end device to perform line qualification tests; and a termination unit, wherein the far end device is adapted to connect the termination unit to the line pair to perform the line qualification tests.”

In contrast, as previously discussed there is no teaching or suggestion in Bothof or Lowell of a far end device to perform line qualification test and that the far end device is adapted to connect a termination unit to the line pair to perform the line qualification test. Therefore, Applicant respectfully submits that claim 56 is patentably distinguishable over Bothof and Lowell, whether considered individually or combined. Reconsideration and withdrawal of the 35 U.S.C. § 103 rejection of claim 56 is, therefore, respectfully solicited.

Regarding the rejection of claims 57 and 58 under 35 U.S.C. § 103 (a) as being unpatentable over Bothof in view of Lowell, these claims contain additional features which further patentable distinguish over Bothof and Lowell. Claim 57 recites “a test set, wherein the far end device connects the termination unit to line pair in response to a signal from the test set” and claim 58 recites “a test set to control operation of the far end device and the termination unit to perform the line qualification tests.” Applicant respectfully submits that there is no teaching or suggestion in Bothof or Lowell of a far end device that connects a termination unit to a line

pair in response to a signal from a test set or a test set that controls operation of the far end device and a termination unit to perform line qualification tests as recited in claims 57 and 58. Furthermore, these claims depend directly from independent claim 56, and by virtue of that dependency contain all of the features of independent claim 56. Therefore, these claims are also submitted to be patentably distinguishable over Bothof and Lowell, whether considered individually or combined, and reconsideration and withdrawal of the Section 103 rejection of these claims is respectfully requested.

Turning now to the rejection of independent claim 70 under 35 U.S.C. § 103 (a) as being unpatentable over Bothof in view of Lowell, claim 70 has been amended to recite:

“an xDSL type modem to signal a termination unit (HTU) over one of a digital subscriber line (xDSL) link and an embedded operations channel (EOC) to selectively connect different types of terminations to the line pair to perform the line qualifying tests.”

In contrast, Bothof in column 1 beginning at line 14 recites:

“The invention provides a portable transmission impairment measuring instrument capable of operating as a MASTER or SLAVE unit and requiring only the circuit under test for communication.” (emphasis added)

Thus, Bothof teaches communication only over the circuit under test and does not teach or suggest an xDSL type modem to signal a termination over one of a xDSL or an EOC as provided by the present inventor as recited in claim 70.

Additionally, referring to Figure 1 of Lowell, Lowell clearly shows only the metallic wireline pairs connected between the Remote Test Unit (RTU) 10 and the electronic test tag (ETT) 40. Therefore, Applicant respectfully submits that there is no teaching or suggestion in either Bothof or Lowell of and xDSL type modem to signal a termination unit (HTU) over one of a digital subscriber line (xDSL) link and an embedded operations channel (EOC) as recited in amended claim 70. Accordingly, Applicant respectfully submits that independent claim 70, as amended, is patentably distinguishable over Bothof and Lowell, and reconsideration and withdrawal of the 35 U.S.C. § 103 (a) rejection of independent claim 70 is respectfully solicited.

With regard to the rejection of claim 71 and 72 under 35 U.S.C. § 103 (a) as being unpatentable over Bothof in view of Lowell, these claims recite additional features which further patentably distinguish over the cited documents. Additionally, these claims depend directly from

independent claim 70. By virtue of this dependency, claims 71 and 72 contain all of the features of independent claim 70. Therefore, Applicant respectfully submits that claims 71 and 72 are also patentably distinguishable over Bothof and Lowell, and reconsideration and withdrawal of the 35 U.S.C. § 103 rejection of these claims is respectfully requested.

Claims 3, 5, 7-8, 14-17, 19, 22, 25-26, 34-36, 39, 41, 43, 45-47, 49-55, 59-61, and 77-80 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over Bothof in view Lowell and further in view Liu et al. (US Patent 6, 266, 395) hereinafter Liu, Bauer et al. (US Patent 6, 026, 145) hereinafter Bauer or Smith et al. (US Pub. No. 2002/0067802A1) hereinafter Smith. This rejection is respectfully traversed. Applicant respectfully submits that this rejection under 35 U.S.C. § 103 does not follow that MPEP § 706.02 (j) as described above. The Office Action does not describe how Liu, Bauer and Smith would modify Bothof and Lowell to arrive at the present invention as claimed. Additionally, the Office Action merely states that it would be obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Liu, Bauer or Smith into the teachings of Bothof in view of Lowell but does not indicate where such teaching or suggestion may be found in the cited documents. Even if it were proper to combine the cited documents, they still would not provide the present invention as recited in the claims.

With respect to claims 3, 5 and 7 these claims depend either directly or indirectly from independent claim 1, and by virtue of this dependency contain all of the features of claim 1. Applicant respectfully submits that Liu, Bauer and Smith add nothing to the teachings of either Bothof or Lowell so as to render amended claim 1 unpatentable as discussed above. Therefore, Applicant respectfully submits that claims 3, 5 and 7 are also patentably distinguishable over Bothof, Lowell, Liu, Bauer, and Smith whether considered individually or combined, and reconsideration and withdrawal of the 35 U.S.C. § 103 (a) rejection of claim 3, 5, and 7 is respectfully requested.

Turning now to the rejection of claim 8 under 35 U.S.C. § 103 (a) as being unpatentable over Bothof in view of Lowell and further in view of Liu, Bauer and Smith, the Office Action indicated that Liu teaches sending signals over a DSL link and referred to the entire abstract of Liu. Applicant respectfully submits that in reviewing the abstract of Liu and the remainder of Liu, this document does not teach or suggest sending and initiate test signal over a digital

subscriber line link in order to initiate line qualification testing as provided by the present invention as recited in the claims. Additionally, Bothof in column 1 beginning at line 14 recites:

“The invention provides a portable transmission impairment measuring instrument capable of operating as a MASTER or SLAVE unit requiring only the circuit under test for communication.”

Accordingly, even if Liu could be characterized as teaching sending an initiate test signal over a DSL link which, Applicant contends is not taught by Liu, a person of ordinary skill in the art would not be motivated to combine Liu with Bothof because Bothof teaches requiring only the circuit under test for communication and therefore teaches away from signaling over a DSL link as provided by the present invention.

Furthermore, claim 8 depends directly from independent claim 1, and by virtue of that dependency contains all of the features of independent claim 1. For all of these reasons, Applicant respectfully submits that claim 8 is patentably distinguishable over the cited documents, whether considered individually or combined, and reconsideration and withdrawal of the Section 103 rejection of claim 8 is respectfully requested.

Turning now to the rejection of claim 14 under 35 U.S.C. § 103 (a) as being unpatentable over Bothof in view Lowell and further in view of Liu, Bauer, or Smith, claim 14 as been amended to recite:

“disconnecting a termination unit from the line pair, if installed; and connecting a test set adapted to perform copper qualifying line testing and equipped with an x digital subscriber line (xDSL) type modem to the line pair; and sending an initiate test signal from the test set to a remote termination unit to perform a series of line qualification test.”

Applicant respectfully submits that there’s no teaching or suggestion in any of the cited documents of disconnecting a termination unit from the line pair and connecting a test set adapted to perform copper qualifying line testing and equipped with an x Digital Subscriber Line type modem to the line pair as provided by the present invention as recited in amended in claim 14. Therefore, Applicant respectfully submits that independent claim 14, as amended, is patentably distinguishable over Bothof, Lowell, Liu, Bauer or Smith, whether considered individually or combined, and reconsideration and withdrawal of the 35 U.S.C. § 103 (a) rejection of independent claim 14 is respectfully solicited.

With respect to the rejection of claims 15-17, 19, 22, 25, and 26, these claims contain additional features which further patentably distinguish over the cited documents. Additionally, these claims depend either directly or indirectly from independent claim 14. Because of that dependency, these claims contain all of the features of independent claim 14. Therefore, Applicant respectfully submits that these claims are also patentably distinguishable over the cited documents, and reconsideration and withdrawal of the 35 U.S.C. § 103 (a) rejection of these claims is respectfully solicited.

As previously discussed, claim 20 has been amended to depend from independent claim 14. As a result of the amendment to claim 20, claims 21 and 27-30 now depend either directly or indirectly from independent claim 14. As a result of this dependency, claims 20-21 and 27-30 contain all of the features of claim 14 and any intermediate claims. Therefore, claims 20-21 and 27-30 are also submitted to be patentably distinguishable over the cited documents and reconsideration and withdrawal of the rejection of these claims is requested.

Regarding the rejection of claims 34-36, these claims depend either directly or indirectly from independent claim 31, and by virtue of that dependency contain all of the features of independent claim 31. Applicant respectfully submits that Liu, Bauer and Smith add nothing to the teachings of Bothof and Lowell, if properly combinable, so as to render independent claim 31 unpatentable as discussed above. Accordingly, Applicant respectfully submits that claims 34-36 are also patentably distinguishable over the cited documents, and reconsideration and withdrawal of the Section 103 rejection of these claims is respectfully requested.

With respect to the rejection of claims 39, 41, 43, 45-47, and 49-55, these claims contain additional features which further patentably distinguish over the cited documents. For example, applicant respectfully submits that there is no teaching or suggestion in any of the cited documents that the initiate test signal is sent over the Digital Subscriber Line to the termination unit as provided by the present invention as recited in claim 45. Additionally, there is no teaching or suggestion in the cited documents of sending the initiate test signal over an embedded operations channel as provided by the present invention in claim 48. As previously discussed, Bothof teaches communications only over the circuit over test. Therefore, Bothof teaches a way from using a DSL link or an embedded operations channel.

Additionally, these claims depend either directly or indirectly from independent claim 37, and by virtue of that dependency contain all of the features of independent claim 37 and any intermediate claims. Accordingly, Applicant respectfully submits that these claims are patentably distinguishable over the cited documents, and reconsideration and withdrawal of the Section 103 rejection of these claims is respectfully requested.

Turning now to the rejection of claims 59-61 under 35 U.S.C. § 103 (a) as being unpatentably over Bothof in view of Lowell and further in view of Liu, Bauer or Smith, these claims depend either directly or indirectly from independent claim 56, and by virtue of that dependency contain all of the features of claim 56. Applicant respectfully submits that as previously discussed these documents are not properly combinable under M.P.E.P. § 706.02 (j) and even if properly combinable they would not render independent claim 56 unpatentable. Therefore, Applicant respectfully submits that claims 59-61 are also patentably distinguishable over the cited documents, and reconsideration and withdrawal of the 35 U.S.C. § 103 (a) rejection of these claims is respectfully solicited.

Turning now to the rejection of independent claim 78 under 35 U.S.C. § 103 (a) as being unpatentable over Bothof in view of Lowell and further in view of Liu, Bauer or Smith, if these documents were properly combinable, they still would not provide the present invention as recited in amended claim 78. Claim 78 has been amended to recite:

“providing an xDSL type modem to signal a termination unit (HTU) over one of a digital subscriber line (xDSL) link and an embedded operations channel (EOC) to selectively connect different types of terminations to the line pair to perform the line qualifying tests.”

As previously discussed Bothof teaches only communication over the circuit under test (see column 1 lines 14-17 of Bothof). Additionally, none of the cited references teach a test set with a DSL modem to signal over a digital subscriber line link or an embedded operations channel to selectively connect different types of terminations to the line pair to perform the line qualifying tests as provided by the present invention as recited in independent claim 78. Accordingly, for all of the reasons discussed above, Applicant respectfully submits that claim 78 is patentably distinguishable over the cited documents, whether considered individually or

combined, and reconsideration and withdrawal of the Section 103 rejection of claim 78 is respectfully requested.

With regard to the rejection of claims 79 and 80 under 35 U.S.C. § 103 (a) as being unpatentable over Bothof in view of Lowell and further in view of Liu, Bauer and Smith, these claims recite additional features which further patentably distinguish over the cited documents. Additionally these claims depend either directly or indirectly from independent claim 78. Because of that dependency, claims 79 and 80 contain all of the features of independent claim 78. Therefore, Applicant respectfully submits that claims 79 and 80 are also patentably distinguishable over the cited documents, and reconsideration and withdrawal of the Section 103 rejection of these claims is respectfully solicited.

Turning now to the rejection of claim 9, 23, and 48 under 35 U.S.C. § 103 (a) as being unpatentable over Bothof in view of Lowell as applied to claims 1, 20-21, 37, and 44, and further in view Barton et al. (US Patent 5,343,461) hereinafter Barton, Barton was cited for teaching sending the initiate test signal over an embedded operations channel. Applicant respectfully submits that Barton teaches a full duplex digital transmission facility loop-back testing diagnostic and maintenance system and does not teach or suggest a method to qualify a line pair as provided by the present invention as recited in the claims. Additionally, as previously discussed, Bothof in column 1 lines 14-17 teaches requiring only the circuit under test for communication. Therefore, a person of ordinary skill in the art would not be motivated to combine the teachings of Bothof and Barton because Bothof teaches a way from using any sort of any communication other than the line pair under test. Additionally, claim 9 depends directly from independent claim 1, claim 23 depends indirectly from independent claim 14 and claim 48 depends indirectly from independent claim 37. Even if Barton, Bothof and Lowell could be properly combined, Barton adds nothing to the teachings of the Bothof or Lowell so as to render independent claims 1, 14 and 37 unpatentable. For all of these reasons, Applicant respectfully submits that claims 9, 23 and 48 are patentably distinguishable over Bothof, Lowell and Barton whether considered individually or combined, and reconsideration and withdrawal of the 35 U.S.C. § 103 (a) rejection of claims 9, 23 and 48 is respectfully solicited.

With respect to the rejection of claims 12 and 24 under 35 U.S.C. § 103 (a) as being unpatentable over Bothof in view of Lowell and further in view of Galpin, these claims have been cancelled.

Turning now to the rejection of claim 18 under 35 U.S.C. § 103 (a) as being unpatentable Bothof in view Lowell as applied to claim 1 and further in view of Beffel et al. (U.S. Patent 5,187,733) hereinafter Beffel, Again, the Office Action merely states what Beffel teaches and does not teach or suggest how Bothof in view Lowell would be modified by Beffel in order to provide the present invention nor does the Office Action indicate the motivation within the cited documents for combining their teachings.

Even if Beffel could properly be combined with Bothof and Lowell, they still would not provide the present invention as recited in the claims. Claim 18 depends directly from independent claim 14. Because of that dependency, claim 18 contains all of the features of independent claim 14. Applicant respectfully submits that Beffel adds nothing to the teachings of Bothof and Lowell so as to render independent claim 14 unpatentable. Therefore, Applicant respectfully submits that claim 18 is also patentably distinguishable over Bothof, Lowell, and Beffel, whether considered individually or combined, and reconsideration and withdrawal of the Section 103 rejection of claim 18 is respectfully solicited.

Conclusion

For the foregoing reasons, the Applicant respectfully submits that all of the claims in the present application are in condition for allowance. Reconsideration and withdrawal of the rejections and allowance of the claims at the earliest possible date are respectfully requested.

If the Examiner has any questions about the present Amendment or anticipates finally rejecting any claim of the present application, a telephone interview is requested.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 13-4365.

Respectfully submitted,

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Date: July 27, 2005

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